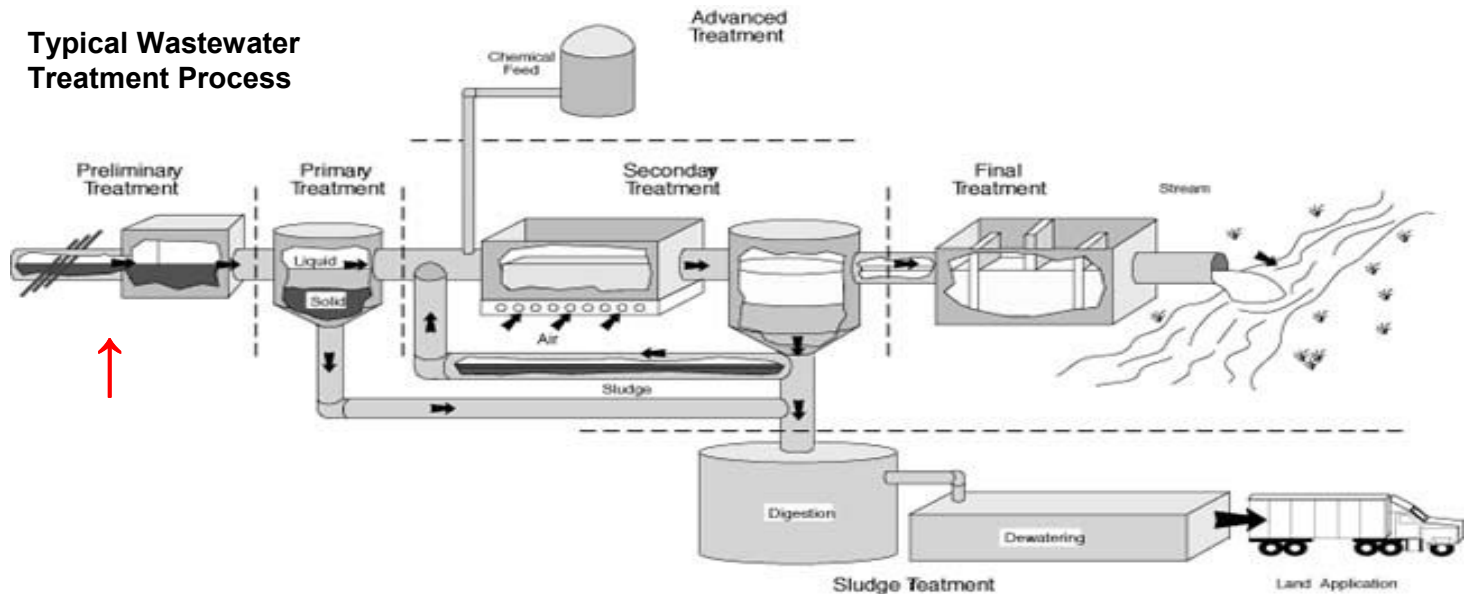


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Urban Wastewater Systems *(continued)*

Preliminary Treatment: Screening, Grit Removal, and Equalization



Screening: A **screen** is a device with openings, typically of uniform size, used to retain or remove suspended or floating solids from a flow stream, preventing them from passing a given point in a conduit. The screening element may consist of parallel bars, rods, wires, grating, wire mesh, or perforated plate. **Screening** is a preliminary treatment process that removes large suspended or floating solids from raw wastewater to prevent subsequent plugging of pipes or damage to pumps. **Screenings** are materials removed from wastewater or raw water by screens.

Grit Removal: Grit: The heavy suspended mineral matter in water or wastewater, such as sand, gravel, or cinders. It is removed in a pretreatment unit called a grit chamber to avoid abrasion and wearing of subsequent treatment devices. Grit removal combined with screening is a prerequisite of waste-water treatment to make the ongoing effluent a manageable and consistent medium entering the next phase of treatment. Ideally, screening or comminution of the main flow will be performed prior to grit removal. In cases where grit is removed from entirely raw sewage, additional washing and classification is necessary before dewatering.

Equalization: Equalization in wastewater systems, is the storage and controlled release of wastewater to treatment processes at a rate determined by the capacity of the processes, or at a rate proportional to the flow in the receiving stream; used to smooth out variations in temperature and composition, and flow. An **equalizing basin** is a holding basin in which variations in flow and composition of a liquid are averaged. Such basins are used to provide a flow of reasonably uniform volume and composition to a treatment unit. It is also called balancing reservoir.

Next week: Primary Treatment